REMARKS

The Office Action dated November 1, 2004 has been read and carefully considered and the present amendment submitted to correct a claim dependency and to traverse the arguments set forth by the Examiner.

In that Office Action, the drawings filed March 11, 2003 were reconsidered and disapproved as introducing new matter. Applicant strongly disagrees with that ground for not entering the drawings that were once considered approved and would refer the Examiner to the specific language in the original specification as will be explained. The language reciting the spring in claim 20 is as follows:

"a spring: a first extreme of said spring being connected to the first movable link, a second extreme of said spring being connected to the second movable link, and an intermediate point of said spring being connected to the working element, in order to maintain angular position of the working element with respect to the base in absence of external forces acting on said working element.

The language from the specification is located in the 3rd paragraph of the "Description of an Embodiment of the Invention, page 7, beginning at line 22, is as follows:

"In the device proposed, where there exists an articulated union between the working element and both movable links, there could be an additional spring (or springs), one of its extremes connected with a movable link, the other extreme connected with the other link and its intermediate point connected with the working element. In such a case if there are no external forces acting on the working element, the latter shall maintain its angular position relative to the base, but when these forces cease to act, the working element shall recuperate its angular position with respect to the base."

Thus, the spring was originally disclosed to have one extreme connected with a movable link, the other extreme connected with the other link and the intermediate point connected with the working element which is the language that is in the claim and where the spring has been shown in the drawing. As such, it is submitted that the objection to the drawing as introducing new matter be withdrawn.

Claim 20 was rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, and it is submitted that the foregoing explanation as to the location and disclosure of the spring puts that issue to rest.

Claims 18, 19 and 21 were rejected under 35 U.S.C. 102(b) as being anticipated by Vainstock, U.S. Patent 4,962,676. Claims 22 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Vainstock. It is noted that the grounds for the rejection seem to be similar to the grounds previously used in rejecting now canceled claim 12,13 and 15 despite the lengthy arguments set forth in the prior amendment describing the differences between the newly worded claims and the Vainsock reference.

Accordingly, while many of the following arguments reiterate those of the prior amendment, it would appear useful to again bring the points to the attention of the Examiner.

> "The solution consisting in using actuators in the same base provided with movable links with **different length** is **not** trivial **because** of the following **reasons**:
>
> - On one hand, this solution has **not** been **used before in walking-machines**.
> - On the other hand, this solution achieves an increment of the working zone of each of the robot's legs, which **increases the speed of the robot**.
> - And most importantly, this solution **increases the stability** of the movement in a required direction, **which is an absolutely novel feature, and proof of it can be found in the article "The Influence of Gravity on Trajectory Planning for Climbing Robots with Non-Rigid Legs" (Journal of Intelligent and Robotic Systems 35: 309-326, 2002. Kluwer Academic Publishers)**, which was submitted attached to the amendment to the 1st Official Action. This effect is described in pages 322-324 of this article (legs with shorter movable links are more rigid, and legs with longer movable links are less rigid; their use in the same robot permits increasing the stability of the movement in a required direction).

The connection between the base and the first ends of the movable links has been

performed in a way that permits a movement in coincident trajectories on the same straight line; this technical solution (also enabling a reduction of the size of the robot) is **not** disclosed in Vainstock."

In paragraph 12 of the Office Action, there is stated:

*"The last clause of claim **18** does not specifically limit the first and second trajectories to lie within the same line".*

First of all, since *"first and second trajectories"* is not the terminology used in said claim, it is assumed that the reference is to the trajectories of the first extremes of the "first and second movable links". The language of claim 18 recites as follows:

"18. (new) Device for ...
...
***wherein** the first and second guiding elements are arranged making coincide the first and second straight lines determined by said guiding elements **in a unique same straight line over which the trajectories of both first extremes of the first and second movable links are situated**;..."*

(Also note the prior amendment of Applicant stated, to wit:

*"The characterizing (novel and inventive) part of new claim 1 contains the following: the first and second guiding elements are arranged making coincide the first and second straight lines determined by said guiding elements in a unique **same straight** line over which the trajectories of both first extremes of the first and second movable links are situated;*
which is supported in the description** "...the movement of these extremes be over trajectories situated over parallel lines or over **a same straight line**." **(section "Description of an Embodiment of the Invention", 4th paragraph);"

Therefore, it is submitted that the characterization of the Examiner is erroneous.

In paragraph 12 of the Office Action, it is further stated:

"On the contrary, claim 18 mere limits the first and second guiding element to be arranged to make the first and second straight lines coincide in a single straight line over which the trajectories of both first extremes of the first and second links are situated".

It should be noted that *"first and second trajectories"* mentioned above are not fully equivalent to *"first and second straight lines"* (mentioned in this point) *"over which the trajectories of both first extremes of the first and second links are situated"*. (See Fig.2 of the present application).

In this sense (and now using the wording of claim 18), we would like to highlight that there is **no** doubt that "trajectories" and "straight lines over which trajectories are situated" cannot rationally be differentiated, because it is simply the same.

In the prior amendment, page 2, it is explicitly stated in claim 18:

> *"a first guiding element which guides the first extreme of the **first** movable link **along trajectories situated over a first straight line** determined by said first guiding element,"* (1st premise)
>
> *"a second guiding element which guides the first extreme of the **second** movable link **along trajectories situated over a second straight line** determined by said second guiding element..."* (2nd premise)
>
> *"...wherein the first and second guiding elements are arranged making coincide the **first and second straight lines** determined by said guiding elements **in a unique same straight line** over which **the trajectories of both first extremes of the first and second movable links are situated...**"* (3rd premise)

After **reading** this, (and as can also be clearly appreciated by looking at Fig. 2 of the present application), from the above 3 premises, it can immediately be inferred in an unequivocal and unmistakable way, that both first and second trajectories are situated over a unique same straight line.

Under paragraph 12, the Office Action further states:

> *"Such a limitation includes an Apparatus, as in Vainstock, wherein the first and second straight lines trajectories coincide **in a single** straight line over which the respective first extremes are situated".*

It should be noted, again, that *"first and second trajectories"* is not the terminology used in said claim so it is assumed that the reference is to the trajectories of the first extremes of the "first and second movable links".

As such, said statement is not compatible with the argument set forth in the prior amendment nor in the Vainstock reference:

As can clearly be appreciated in Figs. 1-3 of "Vainstock", first (75) and second (76) guiding elements respectively guide the first extremes (43 and 47) of the first (50) and second (52) movable links along trajectories that, in spite of being parallel, are situated over different straight lines (75 and 76), not over a unique same straight line, as it has explicitly been expressed in the characterizing portion of independent claim 18.

As noted in the prior amendment:

> *"18. (new) Device for ...*
> ...
> ***wherein** the first and second guiding elements are arranged making coincide the first and second straight lines determined by said guiding elements **in a unique same straight line over which the trajectories of both first extremes of the first and second movable links are situated**;..."*

Also note see page 8 of the prior amendment:

> *"The characterizing (novel and inventive) part of new claim 1 (18) contains the following:*
> *the first and second guiding elements are arranged making coincide the first and second straight lines determined by said guiding elements in a unique **same straight** line over which the trajectories of both first extremes of the first and second movable links are situated;*
> ***which is supported in the description** "...the movement of these extremes be over trajectories situated over parallel lines or over a same straight line." **(section "Description of an Embodiment of the Invention", 4th paragraph);"***

Therefore, it is submitted that the characterization of the Examiner is erroneous.

Paragraph 12 of the Office Action further states:

"Only the trajectories need to be coincident, i.e., the actual movement of the links are not so limited".

Again, it is assumed that said "trajectories" refers to the trajectories of the first extremes of the first and second movable links.

As stated clearly in the prior amendment to the second Office Action, in claim 18 it is not said that: *"a unique same straight line over which the trajectories of both first and second movable links are situated"*, but it is said: *"in a unique same straight line over which the trajectories of both **first extremes** of the first and second movable links are situated"*; (see page 2 of the aforementioned amendment).

Therefore, it is submitted that the characterization of the Examiner is erroneous.

Again it should be noted that the prior amendments filed in this application have **explicitly** stated that, although both said first and second straight lines (over which the trajectories of the first extremes of the first and second movable links are situated) are not necessarily required to be coincident in a unique same straight line (compare Fig.2 of the present application (coincident), vs. Figs. 1-3 of Vainstock (not coincident), that there is an essential difference why the device disclosed in the present application allows enormous simplification of the control algorithm of the working element for movements perpendicular to the base, since precisely due to that difference it can be easily be done by making first and second motors move with a same speed and opposite directions; which, in the case of the device disclosed in Vainstock would require a much more complex algorithm (if a same speed and opposite directions is applied to Vainstock's device, the movement of the working element would **not** be perpendicular at all).

Next, in paragraph of he Office Action, there is stated:

> *"Additionally, "trajectories situated over" a respective first or second straight line do not require the actual path to be in the same line".*

Said expression is found in new independent claim 18, within the following portions of text:

"a first guiding element which guides the first extreme of the first movable link along trajectories situated over a first straight line determined by said first guiding element,

and

a second guiding element which guides the first extreme of the second movable link along trajectories situated over a second straight line determined by said second guiding element..."

It is agreed that said expressions do not require that they are over a same straight line, but, one must consider another expression situated a little farther within the same independent claim 18:

*"..**wherein** the first and second guiding elements are arranged making coincide the first and second straight lines determined by said guiding elements **in a unique same straight line over which the trajectories** of both first extremes of the first and second movable links are situated;"* **(literal)**

Said expression is literally contained within the characterizing portion of independent claim 1. See page 2 of the former amendment.

Therefore, it is submitted that the characterization of the Examiner is erroneous.

Next, under paragraph of the Office Action, it is stated:

"That is, the apparatus of Vainstock, the first and second articulations each have a trajectory over a single (same) straight line (e.g. parallel to and in the same plane as both the first and second guides) .

First of all, the phrase "...of the first extremes of the first and second movable links" follows that passage.

Secondly, there is an apparent contradiction where the Office Action states that the trajectory is situated *"over a single (same) straight line"* (the literal sentence), and then states (even within the same sentence) *"(e.g. parallel to and in the same plane)"*. If they are parallel, they are not necessarily the same at all. It is submitted that "two parallel straight lines" does not mean the same as "a unique same straight line".

Therefore, it is submitted that the characterization of the Examiner is erroneous.

There may be some perceived confusion by Fig.4 of the present application, which could lead one to mistakenly think that one of the embodiments of the device disclosed in the present application is provided with two guiding elements (see upper and lower horizontal parallel straight lines of Fig. 4) that (as it is disclosed in Vainstock) are parallel but different (not coinciding in a unique same straight line).

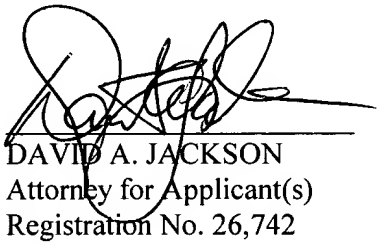
Such a thought would be wrong, since independent claim 18 make reference to the first extremes of the first and second movable links of a same working element, whereas Fig.4 shows two different working elements, each of them provided with its two movable links (whose first extremes for each working element, independently analyzed, do verify that their trajectories are situated over a unique same straight line; (i.e. one of said straight lines is the upper horizontal straight line, provided with two movable links linked to a first working element; and the other of said straight lines is the lower horizontal straight, provided with another two movable links linked to a second working element).

After what has been described above, it becomes apparent that the devices disclosed Vainstock reference cited by the Examiner differ from the structure and design as now claimed in the present patent application and lack the advantages heretofore explained.

In the event that the Examiner still disagrees with the position of the Applicant and does not find the claims to be allowable, it is respectfully requested that the Examiner telephone Applicant's attorney to try to work out acceptable claim language to expedite the progress of this application.

Accordingly, it is submitted that the differentiating features mentioned above show that claims 18-23 are patentable over the references cited in the present application and it is submitted that all of the claims in the present application are allowable over the cited references and an allowance of the present application is respectfully solicited.

Respectfully submitted,



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